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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,749	09/30/2003	Michael G. Carney	343355600069	4208

7590 05/30/2007  
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EXAMINER
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ZHE, MENG YAO

ART UNIT	PAPER NUMBER
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2109

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05/30/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/674,749

Applicant(s)

CARNEY, MICHAEL G.

Examiner

MengYao Zhe

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2109

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 to 22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 to 22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 1/7/2004.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

This is the initial Office Action based on the 10/674749 application filed on 9/20/2003.

### *Information Disclosure Statement*

The information disclosure statement (IDS) submitted on June 24, 2003 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the Examiner has considered the IDS as to the merits.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 to 18 are rejected under 35 U.S.C. 112; second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

More specifically, claim 1 states

**the agents servicing the requests operate synchronously with respect to  
each other**

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It is unclear how the claim limitation above can be accomplished as written since it is not reasonable to synchronize all servicing agents in order to service different asynchronized tasks that are making the request.

### ***Specification***

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Claims 1 to 18 includes the following limitations:

**the agents servicing the requests operate synchronously with respect to each other**

The limitation above is not supported by the specification, since the specification only mentions synchronizing service agents with the task requesting for services.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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**Claims 1 to 22** are rejected under 35 U.S.C. 102(e) as being anticipated by Sankaran et al., Patent No. 5,832,484 (hereafter Sankaran).

**As per claims 1, and 19 to 22, Sankaran teaches a computer-implemented apparatus for handling thread requests in a disparate computer environment,**

**wherein the disparate computer environment arises because the threads requesting services operate asynchronously with respect to each other whereas the agents servicing the requests operate synchronously with respect to each other, comprising:** *(Column 12, lines 45 to 55: the example given by Sankaran shows that two tasks may make separate requests at separate times. Column 3 and Column 4: Sankaran discloses a hash buckets—decomposed from the Lock Manager—for different types of locks for accessing different resources. A separate spin lock is used to get access to each of the bucket that holds the resource locks.)*

**a first lock that allows only one requesting thread into a dispatch section at a time; a second lock that synchronizes the requesting thread that is in the dispatch section with a service agent; wherein, after the requesting thread releases the first and second lock, the service agent handles the request of the requesting thread.** *(Column 3 and 4: The spin lock for each bucket is the equivalent of the first lock. The resource lock associated with each bucket is the*

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*second lock. Column 3, lines 23 to 49, Column 11, lines 34 to 40: Access*

*Methods and a key to a resource are the equivalent of the service agents.)*

**As per claim 2, Sankaran teaches the apparatus of claim 1, wherein the first lock and second lock are nested relative to each other. (Column 15, lines 10 to 45: While a task is waiting on the Lock Manger to grant it a resource lock, it holds the spin lock to the bucket.)**

**As per claim 3, Sankaran teaches the apparatus of claim 1, wherein the requesting thread prepares parameters that are to be passed to the synchronized service agent. (Column 15, lines 35 to 40: information of the task such as task ID is recorded.)**

**As per claim 4, Sankaran teaches the apparatus of claim 1, further comprising: a dispatch module which passes the parameters to the synchronized service agent. (Column 15, lines 35 to 40: The Lock Manager is part of the dispatch module and provides the lock record that includes information about the task.)**

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**As per claim 5, Sankaran teaches the apparatus of claim 4, wherein the dispatch module operates in the requesting thread's context. (Column 8, lines 3 to 20)**

**As per claim 6, Sankaran teaches the apparatus of claim 4, wherein the dispatch module selects a service agent that is free from a pool of services. (Column 15, lines 10 to 45: Different keys are provided for different types of resources. If a lock is indeed free, it will be given to a waiting task.)**

**As per claim 7, Sankaran teaches the apparatus of claim 6, wherein if a free service agent is not available from the pool, then the dispatch module requests and awaits the creation of another service agent that can perform the request of the thread. (Column 15, lines 40 to 65)**

**As per claim 8, Sankaran teaches the apparatus of claim 7 further comprising: a spawner that creates another service agent based upon the request from the dispatch module. (Column 15, lines 20 to 55: The Lock Manager acts as a spawner that creates lock objects or searches for existing lock objects.)**

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**As per claim 9, Sankaran teaches the apparatus of claim 6, wherein if a free service agent is not available from the pool, then the dispatch module waits on an extant service agent to complete its assignment, wherein the extant service agent is used to service the request of the thread. (Column 15, lines 40 to 67)**

**As per claim 10, Sankaran teaches the apparatus of claim 6, wherein when the service agent completes a request, notification is provided to the waiting requesting thread, and reenters the pool of free service agents in order to await another request from a requesting thread. (Column 15, last paragraph, and first paragraph of column 16: The finished tasks wakes up the immediate waiting task in the queue requesting for the same lock and Access Methods.)**

**As per claim 11, Sankaran teaches the apparatus of claim 1, wherein the first lock involves a synchronization point for dispatching the service request. (Locks are used for synchronization purposes.)**

**As per claim 12, Sankaran teaches the apparatus of claim 11, wherein the first lock does not involve the requesting thread awaiting completion of a service agent that is handling the request of the thread. (Column 15, lines 35 to 43: if the task is first in the queue, it gets service immediately.)**



**As per claim 13, Sankaran teaches the apparatus of claim 1, wherein the service agent is task-based in that services are synchronous. (Column 11, lines 30 to 43: *Since locks are involved, it is inherent that the services are synchronous.*)**

**As per claim 14, Sankaran teaches the apparatus of claim 13, wherein the task-based service agent operates in a single-threaded environment. (Column 11, lines 30 to 43*The Examiner considers tasks and threads to be the same.*)**

**As per claim 15, Sankaran teaches the apparatus of claim 13, wherein the task-based service agent operates in a cooperative multi-tasking environment, wherein only one task-based service agent can execute at a time. (In any system, one and only one task can execute at a given time. True concurrency is impossible. Furthermore, Column 12, lines 49 to 51: *multipl*es tasks are running in the system.)**

**As per claim 16, Sankaran teaches the apparatus of claim 15, wherein a first pool of services includes task-based service agents, wherein a second pool of services includes thread-based service agents, wherein the first and second locks are used in accessing the first and second pools of service agents. (Column**

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*11, lines 30 to 43: The Examiner has interpreted threads and task to be the same, so Lock Manager can handle either tasks or threads.)*

**As per claim 17, Sankaran teaches the apparatus of claim 1, wherein utilization of the requesting threads constitutes a technological advance over the use of the service agents. (Column 12, lines 45 to 55, Column 3 and Column 4, and Column 2, lines 50 to 67)**

**As per claim 18, Sankaran teaches the apparatus of claim 17, wherein the service agents constitute a legacy system which becomes substantially compatible with the requesting threads through use of the first and second locks. (Column 12, lines 45 to 55, Column 3 and Column 4, and Column 2, lines 50 to 67)**

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MengYao Zhe whose telephone number is 571-272-6946. The examiner can normally be reached on Monday Through Friday, 7:30 - 5:00 EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Del Sole can be reached on 571-272-1130. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

M.Z.

  
JOSEPH DEL SOLE  
SUPERVISORY PATENT EXAMINER

5/25/07